

ECE 417/617 Assignment #5

Read Chapter 5 of Steve McConnell, Code Complete, 2nd edition, Microsoft Press, 2004.

Then answer the following questions.

Chapter 5: Design

27. According to Rittel and Webber, what is a “wicked” problem?
28. What is a main difference between programs developed in school and those developed as a professional?
29. Software’s primary imperative involves managing two kinds of complexity. What are they?
30. According to Edsger Dijkstra, what is unique about the computing profession?
31. What is meant by “high fan-in” and “low fan-out”?
32. One of the seminal ideas of software development can be traced back to a 1972 paper by David Parnas. What is it?
33. What is the most insidious kind of coupling?
34. What does an observer design pattern do?
35. How does strong cohesion complement loose coupling?
36. What is Plauger’s Principle of One Right Place?
37. What is one of the original books on heuristics in problem solving, and who wrote it?
38. How are top-down and bottom-up design strategies mutually beneficial?
39. List three things that you must do to make prototyping work.
40. Suppose a software team spends a lot of time polishing a poor design. This is an example of what law?
41. List some lightweight ways to capture design work.
42. In ten years the pendulum has swung from BDUF to _____. Dogmatism in applying a particular design method is likely to minimize what?